

Aerospace America  
Year in Review - Thermophysics

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The thermal design verification was the primary focus of the two NASA Mars spacecraft, Mars Global Surveyor and Mars Pathfinder. Each spacecraft had been subjected to space-simulated environment for cruise and Mars operation without any major design deficiencies. Mars Pathfinder included the flight-worthiness demonstration of a mechanical pumped cooling loop. The loop which uses single-phase liquid freon as the working fluid removes up to 150 watts of heat generated in the electronics buried deep inside the spacecraft.

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